

## CLAIMS

Having thus described the aforementioned invention, we claim:

1           1.     An apparatus for switching a plurality of optical paths, each carrying  
2     an optical signal, said apparatus comprising:

3           a first splitter having an input being a primary optical signal;

4           a second splitter having an input being a secondary optical signal;

5           an analog selection circuit having a first input from said first splitter and a  
6     second input from said second splitter; and

7           an optical switch having a first switch input from said first splitter and a  
8     second switch input from said second splitter, said switch responsive to said  
9     analog selection circuit.

1           2.     The apparatus of Claim 1 wherein said analog selection circuit  
2     includes

3           a timing circuit responsive to said primary optical signal; and

4           a deselect circuit responsive to said timing circuit.

1           3.     The apparatus of Claim 2 wherein  
2           said timing circuit outputs a timing signal to said deselect circuit after a  
3     selected period in which said valid primary optical signal is present,  
4           said deselect circuit causes said optical switch to route said primary optical  
5     signal to an output of said optical switch upon receiving said timing signal.

1           4.     The apparatus of Claim 2 wherein said timing circuit includes  
2                 a network including a resistor and a capacitor having a charging time  
3     defining a selected period before said primary optical signal is routed through said  
4     optical switch.

1           5.     The apparatus of Claim 2 wherein said deselect circuit includes  
2                 a network including a Schmitt trigger and a diode, said network causing  
3     said optical switch to route said primary optical signal upon actuation of said  
4     network by a timing signal from said timing circuit.

1           6.     The apparatus of Claim 1 wherein said analog selection circuit is  
2     responsive to an optical signal strength of said primary optical signal and is  
3     responsive to an optical signal strength of said secondary optical signal.

1           7.     The apparatus of Claim 1 wherein said analog selection circuit  
2     includes

3                 a means for routing said secondary optical signal after said primary optical  
4     signal becomes invalid;

5                 a means for determining whether said primary optical signal has been valid  
6     for a selected period; and

7                 a means for deselecting said secondary optical signal and routing said  
8     primary optical signal through said optical switch.

1           8.     An apparatus for switching a plurality of optical paths, said  
2 apparatus comprising:

3           a first splitter having an input being a primary optical signal and having a  
4 pair of outputs including a first splitter main output and a first splitter second  
5 output;

6           a second splitter having an input being a secondary optical signal and  
7 having a pair of outputs including a second splitter main output and a second  
8 splitter second output;

9           an analog selection circuit receiving inputs from said first splitter second  
10 output and said second splitter second output, said analog selection circuit  
11 including

12           a timing circuit responsive to said first splitter second output, said  
13 timing circuit including a resistor and a capacitor having a charging time  
14 defining a selected period, and

15           a deselect circuit responsive to said timing circuit, said timing circuit  
16 outputting a timing signal to said deselect circuit after said selected period  
17 in which a signal indicating that said first splitter second output has a level  
18 greater than a selected value, said deselect circuit including a Schmitt  
19 trigger and a diode; and

20           an optical switch having a first switch input from said first splitter main  
21 output and a second switch input from said second splitter main output, said  
22 switch responsive to said analog selection circuit, which causes said optical switch  
23 to route said first splitter main output to an output of said optical switch upon  
24 receiving said timing signal.

1           9.     An apparatus for switching a plurality of optical paths, said  
2 apparatus comprising:

3           a first splitter having an input being a primary optical signal;

4           a second splitter having an input being a secondary optical signal;

5           an analog selection circuit having a first input from said first splitter and a  
6 second input from said second splitter, said analog selection circuit including

7           a timing circuit responsive to said primary optical signal, and

8           a deselect circuit responsive to said timing signal, said timing circuit  
9 initiated by receiving a valid primary optical signal, said timing circuit  
10 outputting a timing signal to said deselect circuit after a selected period in  
11 which said valid primary optical signal is present; and

12           an optical switch having a first switch input from said first splitter and a  
13 second switch input from said second splitter, said switch responsive to said  
14 analog selection circuit, which causes said optical switch to route said primary  
15 optical signal to an output of said optical switch upon receiving said timing signal.

1           10.    The apparatus of Claim 9 wherein said timing circuit includes

2           a network including a resistor and a capacitor, said network defining a  
3 period before said primary optical signal is routed through said optical switch.

1           11.    The apparatus of Claim 9 wherein said analog selection circuit is  
2 responsive to an optical signal strength of said primary optical signal and is  
3 responsive to an optical signal strength of said secondary optical signal.

1           12.    The apparatus of Claim 9 wherein said timing circuit includes  
2           a network including a resistor and a capacitor having a charging time  
3 defining a selected period before said primary optical signal is routed through said  
4 optical switch.

1           13.    The apparatus of Claim 9 wherein said deselect circuit includes  
2           a network including a Schmitt trigger and a diode, said network causing  
3 said optical switch to route said primary optical signal upon actuation of said  
4 network by a timing signal from said timing circuit.

1           14.    An apparatus for switching a plurality of optical paths, said  
2 apparatus comprising:  
3           a means for routing a primary optical signal through an optical switch;  
4           a means for sensing a valid primary optical signal;  
5           a means for routing a secondary optical signal through said optical switch;  
6           a means for determining when said primary optical signal has been valid for  
7 a selected period;  
8           a means for deselecting said secondary optical signal and routing said  
9 primary optical signal through said optical switch.